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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,689	01/15/2002	Chanchal Kumar Ghosh	7280&C	4733

27752 7590 07/18/2002

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[REDACTED] EXAMINER

ELHILO, EISA B

ART UNIT	PAPER NUMBER
1751	3

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/047,689	GHOSH ET AL.
	Examiner Eisa B Elhilo	Art Unit 1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 January 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 47-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 47-71 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 47-71 are pending in this application.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 47-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baeck et al. (US Patent No. 5,679,630) in view of Aaslyng et al. (US Patent No. 6,197,567).

Baeck (US' P 630) teaches protease-containing cleaning compositions and method for cleaning fabric, dishes and personal cleaning (see col. 2, lines 17-32). The compositions comprise protease variant having an amino acid sequence derived by replacement of a plurality of amino acid residues with different amino acid residues. The plurality of amino acid residues of the precursor enzyme corresponds to positions 76 and 103 with one or more of the following residues 99, 101, 104, 107, 123, 27, 105, 109, 126, 128, 166, 204, 206, 210, 216, 217, 218, 222, 260, 265 and/or 274, where the numbered position corresponds to naturally-occurring subtilisin from *Bacillus amyloliquefaciens* or to equivalent amino acid residues in other carbonyl hydrolases or subtilisin, such as *Bacillus lentinus subtilisin* (see col. 3, lines 12-31). Baeck also teaches cleaning adjunct materials comprising from about 0.1% to about 60% of surfactants such as alkyl benzene sulfonates (see col. 21, lines 13-19), from about 5% to about 50% of builders such as zeolites and polycarboxylates (see col. 22, lines 28-29), enzymes such as cellulases, lipases and amylases (see col. 22, line 34), bleaching agents such as percarbonates and

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perborates (see col. 22, lines 39-40), from 1% to 10% of enzyme stabilizers (see col. 22, lines 62-65). Baeck also teaches cleaning compositions in form of liquid or granule (see col. 20, line 24) comprising from about 0.0001% to about 10% of protease variant (see col. 20, lines 56-59).

Regarding claim 68, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the ratio of soap to protease variant in order to get the maximum effect, because the reference teaches the effective amounts of the protease variant that incorporated into the detergent compositions (see col. 20, line 35) and thus a person of ordinary skill in the art would expect such composition to have similar properties to those claimed, absent unexpected results.

The disclosure of Baeck is summarized above. The instant claims differ from the reference by reciting substitutions at positions other than 27, 99, 101, 104, 107, 109, 123, 126, 128, 166, 204, 206, 210, 216, 217, 218, 222, 260, 265, or 274.

Aaslyng (US' P 567) teaches modified subtilisins and detergent compositions for material to be removed from textile, hard surfaces or other materials to be cleaned (see col. 17, lines 58-59). The compositions comprise protease variants that include different amino acid sequences relative to their parent proteases among the amino acid residues at any one or more of the following positions: 1-4, 14-18, 20, 27, 40-41, 43-46, 51-52, 60-62, 75-79, 91, 94, 97, 100, 105-106, 108, 112-113, 117-118, 129-130, 133-134, 136, 137, 141, 143-146, 165, 173, 181, 183-185, 191-192, 206, 209-212, 216, 239-240, 242-245, 247-249, 251-253, 255-257, 259, 263, 269 and 271-272 and at least one further mutation an amino acid residues occupying one of the following positions: 1-4, 6, 9-12, 14-15, 17-22, 24-25, 27, 36-38, 40-41, 43-46, 49, 50-62, 75-79, 87-89, 91, 94, 97-101, 103-109, 112-113, 115-118, 120, 126, 128-131, 133-134, 136-137, 140-141,

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143-146, 155-156, 158-167, 170-173, 181-186, 188-189, 191-192, 194-195, 197, 204, 206, 209, 210-218, 235-245, 247-249, 251-257, 259-263, 265, 269, 271-272 and 275 (see col. 21, lines 4-47). Aaslyng teaches subtilisin BPN as parent proteases (see col. 22, lines 34-37). Aaslyng also teaches a protease variant includes a substitution selected from the groups such as 103/245, 103/104/159/236/245 and 76/103/104/159 (see col. 21, lines 26-47).

Therefore, in view of the teaching of the secondary reference, one having ordinary skill in the art at the time the invention was made would be motivated to modify the primary reference by using protease variants with other substitutions as taught by Aaslyng to make such cleaning compositions. Such modification would be obvious because one would expect that the use of protease variants as taught by Aaslyng would be similarly useful and applicable to the analogues compositions taught by Baeck.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eisa B Elhilo whose telephone number is (703) 305-0217. The examiner can normally be reached on M - F (7:30-5:00) with alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (703) 308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elhilo *Elie*
July 6, 2002

Yogendra N. Gupta
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